

chain nodes :

7 8 9 10 11 12 25

ring nodes :

1 2 3 4 5 6 13 14 15 16 17 18 19 20 21 22 23 24

chain bonds :

3-9 4-7 5-8 6-20 9-10 10-11 11-12 12-17 23-25

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 13-14 13-18 14-15 15-16 16-17 17-18  
19-20 19-24 20-21 21-22 22-23 23-24

exact/norm bonds :

3-9 9-10 13-14 13-18 14-15 15-16 16-17 17-18 23-25

exact bonds :

4-7 5-8 6-20 10-11 11-12 12-17

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 19-20 19-24 20-21 21-22 22-23 23-24

G1:C,O

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS  
10:CLASS 11:CLASS 12:CLASS 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom  
18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:CLASS

AN 1991:667011 CAPLUS  
 DN 115:267011  
 ED Entered STN: 14 Dec 1991  
 TI Compounds having trans-3-cyclohexylallyloxy groups and liquid-crystal mixtures and electrooptical devices using them  
 IN Kelly, Stephen  
 PA Hoffmann-La Roche, F., und Co. A.-G., Switz.  
 SO Eur. Pat. Appl., 29 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA German  
 IC ICM C09K019-30  
 ICS C07C069-618; C07D319-06; C07D239-26; C07D213-89  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 24, 75

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 393501	A1	19901024	EP 1990-106991	19900411
	EP 393501	B1	19930623		
	R: CH, DE, FR, GB, IT, LI, NL				
	US 5032312	A	19910716	US 1990-487096	19900302
	JP 03027340	A2	19910205	JP 1990-105126	19900420
PRAI	CH 1989-1547		19890420		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES		
	EP 393501	ICM	C09K019-30		
		ICS	C07C069-618; C07D319-06; C07D239-26; C07D213-89		
OS	MARPAT 115:267011				
AB	The compds. have the general formula R1(A3Z2)nC6H10CH:CHCH2OA1(Z1A2)mR2, where R1 = R3 or R3A4Z3; R2 = R4 or Z4A5R4; m, n = 0 or 1; A1-5 = un-, halogen-, CN-, and/or Me-substituted 1,4-phenylene (in which 1 or 2 CH groups may be replaced by N), trans-1,4-cyclohexylene (in which 2 nonadjacent CH2 groups may be replaced by O or S), 1-cyano-trans-1,4-cyclohexylene, bicyclo[2.2.2]octan-1,4-diyl, naphthalen-2,6-diyl, tetralin-2,6-diyl, or trans-decalin-2,6-diyl; Z1-4 = single bond, COO, OOC, CH2O, OCH2, CH2CH2, C.tplbond.C, (CH2)3O, O(CH2)3, CH:CHCH2O, or OCH2CH:CH; R3, R4 = halogen, CN, NCS, CF3, OCF3, or alkyl (which may contain a double bond and/or in which 1 or 2 nonadjacent CH2 groups are replaced by O, COO, and/or OOC and/or 1 CH2 group is replaced by CHX); and X = halogen, CN, or Me.				
ST	cyclohexylallyloxy deriv liq crystal mixt; electrooptical display liq crystal cyclohexylallyloxy deriv				
IT	Optical imaging devices (electro-, liquid-crystal, compds. for)				
IT	104358-16-9P 134442-73-2P 134442-74-3P 134442-75-4P 134442-76-5P 134442-77-6P 134526-72-0P				
RL:	RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reaction of, in formation of components for liquid-crystal mixts. and display devices)				
IT	134442-20-9P 134442-21-0P 134442-22-1P 134442-23-2P 134442-24-3P 134442-25-4P 134442-26-5P 134442-27-6P 134442-28-7P 134442-29-8P <b>134442-30-1P</b> 134442-31-2P 134442-32-3P 134442-33-4P 134442-34-5P 134442-35-6P 134442-36-7P 134442-37-8P 134442-38-9P 134442-39-0P 134442-40-3P 134442-41-4P 134442-42-5P 134442-43-6P 134442-44-7P 134442-45-8P 134442-46-9P 134442-47-0P 134442-48-1P 134442-49-2P 134442-50-5P <b>134442-51-6P 134442-52-7P</b> <b>134442-53-8P</b> 134442-54-9P 134442-55-0P 134442-56-1P 134442-57-2P 134442-58-3P 134442-59-4P 134442-60-7P 134442-61-8P 134442-62-9P 134442-63-0P 134442-64-1P 134442-65-2P 134442-66-3P 134442-67-4P 134442-68-5P 134442-69-6P 134442-70-9P 134442-71-0P				

134442-72-1P 134462-12-7P 134462-13-8P 134503-27-8P 136240-16-9P  
RL: PREP (Preparation)

(preparation of, for liquid-crystal mixts. and display devices)

IT 134442-30-1P 134442-51-6P 134442-52-7P

134442-53-8P

RL: PREP (Preparation)

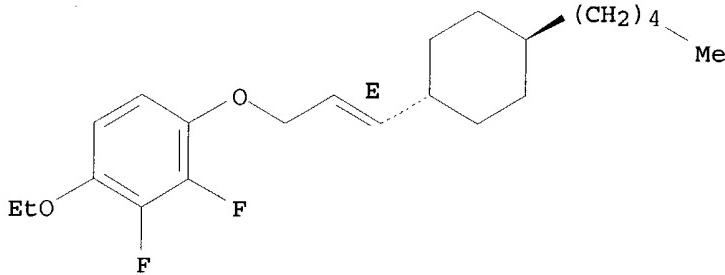
(preparation of, for liquid-crystal mixts. and display devices)

RN 134442-30-1 CAPLUS

CN Benzene, 1-ethoxy-2,3-difluoro-4-[[3-(4-pentylcyclohexyl)-2-propenyl]oxy]-, [1 $\alpha$ (E),4 $\beta$ ] - (9CI) (CA INDEX NAME)

Relative stereochemistry.

Double bond geometry as shown.

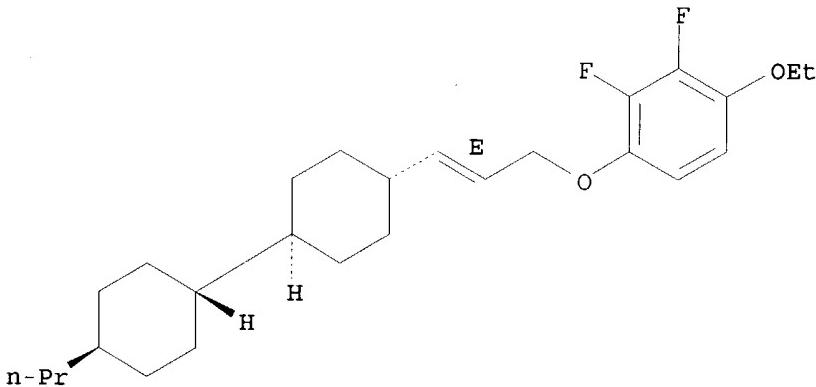


RN 134442-51-6 CAPLUS

CN Benzene, 1-ethoxy-2,3-difluoro-4-[[[(2E)-3-[(trans,trans)-4'-propyl[1,1'-bicyclohexyl]-4-yl]-2-propenyl]oxy]- (9CI) (CA INDEX NAME)

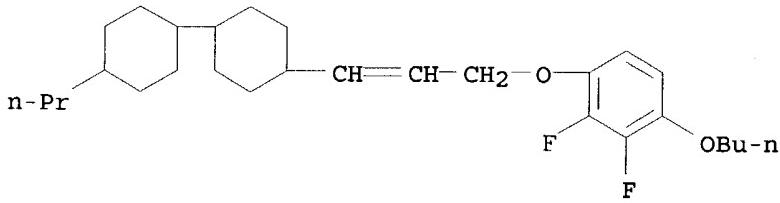
Relative stereochemistry.

Double bond geometry as shown.



RN 134442-52-7 CAPLUS

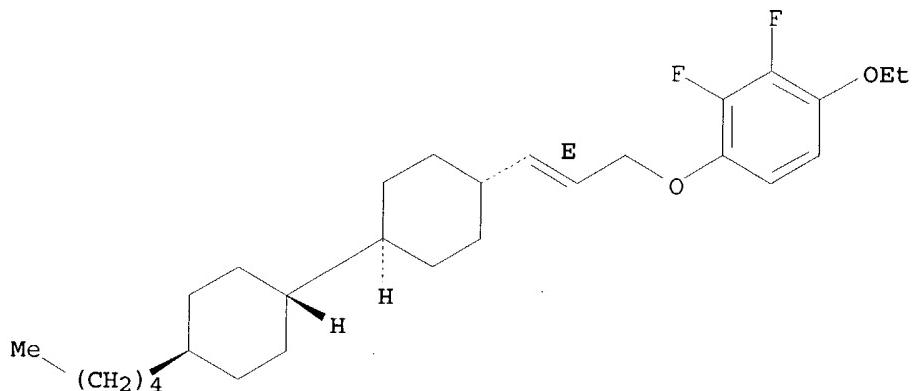
CN Benzene, 1-butoxy-2,3-difluoro-4-[[3-(4'-propyl[1,1'-bicyclohexyl]-4-yl)-2-propenyl]oxy]-, [1 $\alpha$ (trans),4 $\beta$ (E)] - (9CI) (CA INDEX NAME)



RN 134442-53-8 CAPLUS

CN Benzene, 1-ethoxy-2,3-difluoro-4-[[*(2E)*-3-[*(trans,trans)*-4'-pentyl[1,1'-bicyclohexyl]-4-yl]-2-propenyl]oxy]- (9CI) (CA INDEX NAME)

Relative stereochemistry.  
Double bond geometry as shown.



AN 2004:652350 CAPLUS  
ED Entered STN: 13 Aug 2004  
TI Liquid crystal composition and liquid crystal display element  
IN Okabe, Eiji; Tomi, Yoshitaka; Saito, Masayuki; Yamamoto, Hitoshi  
PA Japan  
SO U.S. Pat. Appl. Publ., 20 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM C09K019-30  
ICS C09K019-12  
NCL 252299630; 428001100; 252299660  
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 75

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004155223	A1	20040812	US 2004-769795	20040203
PRAI	JP 2003-25844	A	20030203		
	JP 2003-424375	A	20031222		

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 20040155223	ICM	C09K019-30
		ICS	C09K019-12
		NCL	252299630; 428001100; 252299660

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The present invention relates to a liquid crystal composition having a neg. dielec. anisotropy, containing at least one compound selected from the group of compds. represented by Formulas I, II, III, IV (R5 = alkyl or alkenyl; R2 = alkyl or alkoxy; A5 = 1,4-phenylene or 2-fluoro-1,4-phenylene; and A6 = 1,4-phenylene, 2-fluoro-1,4-phenylene or 2,3-difluoro-1,4-phenylene) as a first component.

ST liq crystal compn display element

IT Liquid crystal displays

Liquid crystals

(liquid crystal composition for liquid crystal display element)

IT	63295-08-9	73255-62-6	79709-85-6	80944-44-1	80955-71-1
	81701-13-5	81782-74-3	81936-32-5	82832-32-4	82832-34-6
	83242-83-5	84540-32-9	84655-98-1	84656-75-7	84656-77-9
	86778-48-5	88038-92-0	88416-69-7	88878-50-6	92263-41-7
	96624-43-0	96624-52-1	97398-80-6	98321-58-5	102714-92-1
	106349-49-9	110881-30-6	116020-44-1	123787-68-8	129738-34-7
	131790-57-3	134442-51-6	134442-53-8	153429-48-2	
	155041-85-3	173089-33-3	173535-88-1	181369-18-6	196699-20-4
	196699-38-4	197012-69-4	279246-63-8	352566-00-8	737791-30-9
	737791-31-0	737791-32-1	737791-33-2		
	737791-34-3	737791-35-4	737791-36-5		
	737791-37-6	737791-38-7	737791-39-8		
	737791-40-1	737791-41-2	737791-43-4		
	737791-44-5	737791-45-6	737791-46-7		
	737791-47-8	737791-48-9	737791-49-0		
	737791-50-3	737791-51-4	737791-52-5		
	737791-53-6	737791-54-7	737791-55-8	737791-56-9	
	737791-57-0	737791-58-1			

RL: TEM (Technical or engineered material use); USES (Uses)  
(liquid crystal composition for liquid crystal display element)